

Micro-vibration Measurement Smart Sensor (Velocimeter / MA301+G)

- MA301+G is a terminal device with excellent performance in micro-vibration measurement. It has a built-in velocimeter (3-axis-Geophone) that measures the velocity of the ground, providing excellent dynamic range performance of over 130dB. This product is a device specialized for safety monitoring of buildings, structures, and underground facilities, and has various functions and performances required for ground measurement, such as 24BIT resolution, wired/wireless (WIFI) communication support, SD Card data storage, and GPS (1PPS) time synchronization support. In addition, it can be used to estimate the point where sinkholes can occur when operating together with micro-vibration measurement and groundwater level gauges during mining/tunnel excavation.



Specification

- Range	: 28.8V/m/s 5%	- Type	: Tri-axial geophone
- Sample Cycle	: 100, 200, 500, 1000, 2000 SPS	- Display	: 16×2 Line
- Frequency Respnse	: 1~1000Hz	- I/O Ports	: Ethernet, Serial
- Resolution	: 3-Channel 24bit Delta-sigma	- Time Sync	: GPS(1PPS) within 1ms, NTP
- Dynamaic Range	: More than 130 dB	- Power Supply	: 48~52VDC POE, 12VDC
- Storage	: 32GB SD Card	- Communication	: (Wired) Ethernet, Serial (Wireless) WFI
		- Weight	: 1.1 Kg

Features

- » Built-in high-sensitivity velocimeter (3-axis geophone) for precise measurement of micro-vibration
- » Power and communication line configuration using a single network cable (PoE)
- » Supports NTP (Network Time Protocol) and GPS (1PPS) for time synchronization
- » Easy IP communication support with DHCP and Static protocols
- » Dynamic range more than 130dB
- » Supports wired and wireless (WIFI) communication methods
- » Supports 32GB SD Card storage capacity

Sensor photos



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◦ Operable Facilities



Mining/Tunnel Micro-vibration



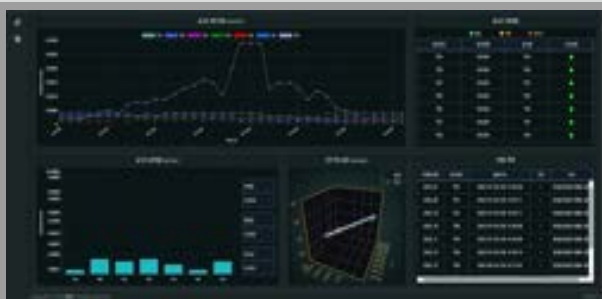
Civil/Construction Monitoring



Estimate sinkhole occurrence point

◦ Software

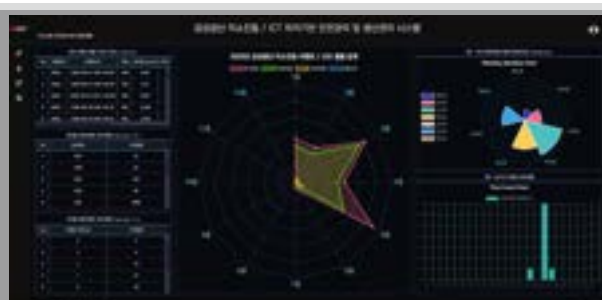
- › Real-time monitoring in underground mines enables immediate detection of potential hazards
- › Locating monitoring enables immediate response to on-site hazards
- › The occurrence of micro-vibrations is analyzed and delivered through detailed reporting
- › By centrally monitoring vibration occurrences, preventive measures can be reinforced to ensure safety



Mining Micro-Vibration Monitoring



Measurement Event Analysis



Comprehensive Micro-Vibration Monitoring



Micro-Vibration Localization Monitoring